

Claims

[c1] What is claimed is:

1. A fingerprint sensor for sensing a fingerprint, the fingerprint sensor comprising:

a detecting and processing circuit; and

a plurality of sensing units, each of the sensing units comprising:

a switch element comprising a first terminal, a second terminal, and a third terminal, the first terminal is connected to a switch terminal, the third terminal is connected to the detecting and processing circuit, and the switch element is turned on/off by the switch terminal;

a first resistor having a first terminal connected to the second terminal of the switch element, a fingerprint influenced intensity of light illuminating the first resistor so that resistance of the first resistor and a voltage level of the second terminal of the switch element change; and
a second resistor having a first terminal connected to the second terminal of the switch element and the resistance of the second resistor is fixed;

wherein when the switch elements are turned on, the detecting and processing circuit analyzes the fingerprint according to the voltage levels of the second terminals of

the plurality switch elements.

- [c2] 2. The fingerprint sensor of claim 1 wherein each of the sensing units has a second terminal of the first resistor connected to a first predetermined reference voltage and has a second terminal of the second resistor connected to a second predetermined reference voltage, the voltage level of the first reference voltage differing from the voltage level of the second reference voltage.
- [c3] 3. The fingerprint sensor of claim 1 wherein each of the switch elements is a transistor.
- [c4] 4. The fingerprint sensor of claim 1 wherein the first resistor is manufactured from amorphous silicon.
- [c5] 5. The fingerprint sensor of claim 1 wherein the second resistor is manufactured from indium tin oxide